

- $$\begin{array}{c} \text{Cy} \\ | \\ \text{R}_2 - \text{X} - \text{X} - \text{Y} - \text{L} - \text{Lp(D)}_n \\ | \\ \text{X} \end{array}$$

wherein:

each X independently is a C, N, O or S atom or a CO,
25 CR_{1a}, C(R_{1a})₂ or NR_{1a} group, at least one X being C, CO, CR_{1a}
or C(R_{1a})₂;

each R_{1a} independently represents hydrogen or hydroxyl, alkoxy, alkyl, aminoalkyl, hydroxyalkyl alkoxyalkyl, alkoxycarbonyl, alkylaminocarbonyl, alkoxycarbonylamino, 30 acyloxymethoxycarbonyl or alkylamino optionally substituted by hydroxy, alkylamino, alkoxy, oxo, aryl or cycloalkyl;

R_1 is as defined for R_{1a} , provided that R_1 is not

- 171 -

unsubstituted aminoalkyl;

Y (the α -atom) is a nitrogen atom or a CR_{1b} group;

Cy is a saturated or unsaturated, mono or poly cyclic, homo or heterocyclic group, optionally substituted by groups

5 R_{3a} or $R_{3i}X_i$;

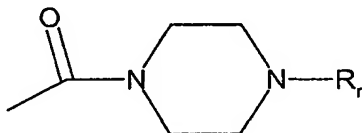
each R_{3a} independently is R_{1c} , amino, halo, cyano, nitro, thiol, alkylthio, alkylsulphonyl, alkylsulphenyl, triazolyl, imidazolyl, tetrazolyl, hydrazido, alkylimidazolyl, thiazolyl, alkylthiazolyl, alkyloxazolyl, oxazolyl, alkylsulphonamido, 10 alkylaminosulphonyl, aminosulphonyl, haloalkoxy, haloalkyl, a group of the formula $-C(X^3)N(R^{11})R^{12}$ (wherein X^3 is O or S; and R^{11} and R^{12} are independently selected from hydrogen, methyl or ethyl or together with the nitrogen atom to which they are attached form a pyrrolidin-1-yl, piperidin-1-yl or 15 morpholino group), or $-OCH_2O-$ which is bonded to two adjacent ring atoms in Cy;

X_i is a bond, O, NH or CH_2 ;

R_{3i} is phenyl, pyridyl or pyrimidinyl optionally substituted by R_{3a} ;

20 R_{1b} , R_{1c} and R_{1j} are as defined for R_{1a} ; and

$-L-Lp(D)_n$ is of the formula:



in which R_f is $-(CH_2)_c-R_c$, $-CHR_eR_f$, $-CH_2-CHR_eR_f$,

$-CH_2-CH_2-CHR_eR_f$, or R_g in which c is 1 or 2; R_c is thienyl,

25 thiazolyl (which may bear an amino substituent), isothiazolyl, oxazolyl, isoxazolyl, pyrazolyl, imidazolyl, pyridyl (which may bear an alkylsulphonyl, aminosulphonyl,

alkylaminosulphonyl, alkylaminocarbonyl, amino, amido, (1-4C)alkoxycarbonyl, carboxy, acetyl amino, chloro, fluoro,

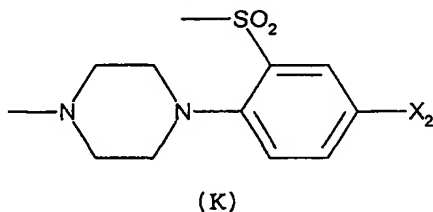
30 cyano, (1-3C)alkyl, trifluoromethyl, methoxy, ethoxy, nitro, hydroxy, alkylsulphonylamino, triazolyl or tetrazolyl

- 172 -

substituent), pyrimidinyl, pyridazinyl, pyrazinyl or phenyl (which may bear a methyl, methylamino, dimethylamino, carboxy, dialkylaminosulphonyl, alkylsulphonyl, aminosulphonyl, alkylaminosulphonyl, alkylaminocarbonyl, amino, amido, 5 alkoxy, acetyl, chloro, fluoro, cyano, methoxy, ethoxy, nitro, hydroxy, alkylsulphonylamino, triazolyl or tetrazolyl substituent); each of R_e and R_f independently is hydrogen or C_{1-3} alkyl; or CHR_eR_f is cyclopentyl (which may bear a hydroxy, amino, (1-3C)alkoxy, (1-3C)hydroxyalkyl, (1- 10 3C)alkyl, carboxy, methoxycarbonyl or ethoxycarbonyl substituent at the 3- or 4-position), cyclohexyl (which may bear a hydroxy, amino, (1-3C)alkoxy, (1-3C)hydroxyalkyl, (1- 3C)alkyl, carboxy, methoxycarbonyl or ethoxycarbonyl substituent at the 3- or 4-position), tetrahydropyran-4-yl, 15 tetrahydrothiopyran-4-yl, pyrrolidin-3-yl (which may bear a hydroxy, amino, (1-3C)alkoxy, (1-3C)hydroxyalkyl, (1-3C)alkyl, carboxy, methoxycarbonyl or ethoxycarbonyl substituent at the 1-position), piperidin-4-yl (which may bear a hydroxy, amino, (1-3C)alkoxy, (1-3C)hydroxyalkyl, (1-3C)alkyl, carboxy, 20 methoxycarbonyl or ethoxycarbonyl substituent at the 1-position), or indan-2-yl; and R_g is 2-methylsulphonylphenyl which may bear a 4-fluoro substituent or R_g is λ^6 -1,1-dioxobenzo[b]thiophen-7-yl;

or a physiologically-tolerable salt thereof;

25 provided that $Lp(D)_n$ is not of the formula (K):



wherein X_2 is fluoro or hydrogen.

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2. A serine protease inhibitor compound of formula (I)

$$\begin{array}{c}
 \text{Cy} \\
 | \\
 \text{R}_2 - \text{X} - \text{X} - \text{Y} - \text{L} - \text{Lp(D)}_n \\
 \text{(I)}
 \end{array}$$

R₂ is a 5 or 6 membered aromatic carbon ring optionally interrupted by a nitrogen, oxygen or sulphur ring atom, optionally being substituted in the 3 and/or 4 position (in relation to the point of attachment of X-X) by halo, nitro, thiol, haloalkoxy, hydrazido, alkylhydrazido, amino, cyano, haloalkyl, alkylthio, alkenyl, alkynyl, acylamino, tri or difluoromethoxy, carboxy, acyloxy, MeSO₂- or R₁, or the substituents at the 3 and 4 positions taken together form a fused ring which is a 5 or 6 membered carbocyclic or heterocyclic ring optionally substituted by halo, haloalkoxy, haloalkyl, cyano, nitro, amino, hydrazido, alkylthio, alkenyl, alkynyl or R_{1j}, and optionally substituted in the position alpha to the X-X group (i.e. 6 position for a six membered aromatic ring etc) by amino, hydroxy, halo, alkyl, carboxy, alkoxycarbonyl, cyano, amido, aminoalkyl, alkoxy or alkylthio with the proviso that R₂ cannot be aminoisoquinolyl;

each X independently is a C, N, O or S atom or a CO, CR_{1a}, C(R_{1a})₂ or NR_{1a} group, at least one X being C, CO, CR_{1a} or C(R_{1a})₂;

each R_{1a} independently represents hydrogen or hydroxyl, alkoxy, alkyl, aminoalkyl, hydroxyalkyl alkoxyalkyl, alkoxycarbonyl, alkylaminocarbonyl, alkoxycarbonylamino, acyloxymethoxycarbonyl or alkylamino optionally substituted by hydroxy, alkylamino, alkoxy, oxo, aryl or cycloalkyl;

R₁ is as defined for R_{1a}, provided that R₁ is not unsubstituted aminoalkyl;

Y (the α-atom) is a nitrogen atom or a CR_{1b} group;

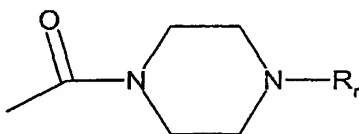
Cy is a saturated or unsaturated, mono or poly cyclic, homo or heterocyclic group, optionally substituted by groups

R_{3a} or phenyl optionally substituted by R_{3a};

each R_{3a} independently is R_{1c}, amino, halo, cyano, nitro, thiol, alkylthio, alkylsulphonyl, alkylsulphenyl, triazolyl, imidazolyl, tetrazolyl, hydrazido, alkyl imidazolyl, thiazolyl, alkyl thiazolyl, alkyl oxazolyl, oxazolyl, alkylsulphonamido, alkylaminosulphonyl, aminosulphonyl, haloalkoxy and haloalkyl;

R_{1b}, R_{1c} and R_{1j} are as defined for R_{1a}; and

-L-Lp(D)_n is of the formula:

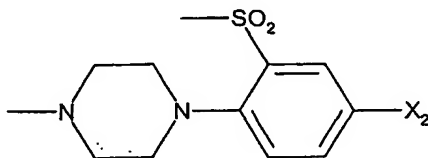


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in which R_r is -(CH₂)_c-R_c, -CHR_eR_f, -CH₂-CHR_eR_f, or R_g in which c is 1 or 2; R_c is pyridyl or phenyl (which phenyl may bear a fluoro, chloro, methyl, CONH₂, SO₂NH₂, methylaminosulphonyl, dimethylaminosulphonyl, methoxy or methylsulphonyl substituent); each of R_e and R_f independently is hydrogen or C₁₋₃alkyl; or CHR_eR_f is cyclopentyl (which may bear a methyl, ethyl or hydroxymethyl substituent at the 3- or 4-position), cyclohexyl (which may bear a methyl, ethyl or hydroxymethyl, (1-3C)alkyl, carboxy, methoxycarbonyl or ethoxycarbonyl substituent at the 3- or 4-position), tetrahydropyran-4-yl, tetrahydrothiopyran-4-yl, pyrrolidin-3-yl (which may bear a 1-methyl substituent), or indan-2-yl; and R_g is 2-methylsulphonylphenyl which may bear a 4-fluoro substituent or R_g is λ⁶-1,1-dioxobenzo[b]thiophen-7-yl;

25 or a physiologically-tolerable salt thereof;

provided that Lp(D)_n is not of the formula (K):

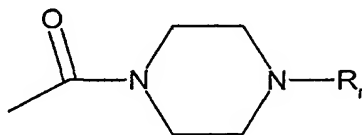


- 175 -

(K)

wherein X_2 is fluoro or hydrogen.

- 5 3. A compound according to claim 1 wherein $-L-Lp(D)_n$ is of the formula:



in which R_f is $-(CH_2)_c-R_c$; in which c is 2; R_c is thienyl, thiazolyl (which may bear an amino substituent),
 10 isothiazolyl, oxazolyl, isoxazolyl, pyrazolyl, imidazolyl, pyridyl (which may bear an amino, methoxycarbonyl, carboxy, fluoro, cyano, methyl, methylsulphonyl, aminosulphonyl, methylaminosulfonyl, dimethylaminosulfonyl, or trifluoromethyl
 15 (which phenyl may bear a fluoro, chloro, cyano, methyl, amino, methylsulphonyl, aminosulphonyl, methylaminosulphonyl, dimethylaminosulphonyl, methylamino, dimethylamino, carboxy, methoxycarbonyl or methoxy substituent).

- 20 4. A compound according to any one of claims 1 to 3 wherein R_c is thiazolyl (which may bear an amino substituent), pyrimidinyl, pyrazolyl, imidazolyl, pyridyl (which may bear a methylsulphonyl, aminosulphonyl, methylaminosulfonyl, dimethylaminosulfonyl, fluoro, cyano, methyl or
 25 trifluoromethyl substituent), pyridazinyl, pyrazinyl or phenyl (which phenyl may bear a fluoro, chloro, cyano, methyl, amino, methylamino, dimethylamino, carboxy, methoxycarbonyl, methylsulphonyl, aminosulphonyl, methylaminosulfonyl, dimethylaminosulfonyl, or methoxy substituent).

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5. A compound according to any one of claims 1 to 4 wherein

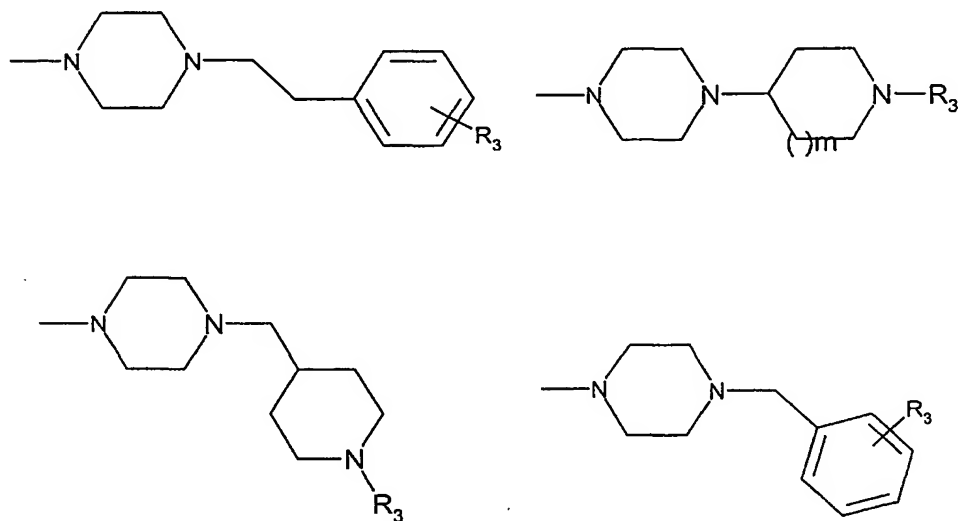
Rc is thiazolyl (which may bear an amino substituent), pyrazolyl, imidazolyl, pyridyl (which may bear a fluoro, cyano, methyl or trifluoromethyl substituent), pyridazinyl or pyrazinyl.

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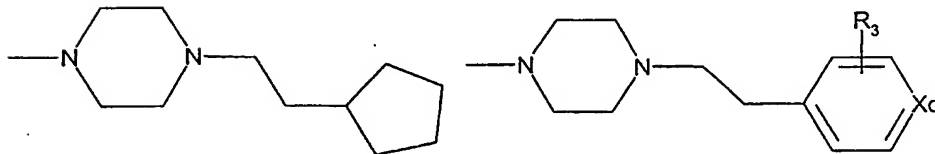
6. A compound according to any one of claims 1 to 5 wherein Rc is thiazol-2-yl, 2-aminothiazol-4-yl, pyrazol-1-yl, pyrazol-4-yl, pyridazin-3-yl, imidazol-1-yl, imidazol-4-yl, pyrazin-2-yl, pyrid-2-yl, pyrid-3-yl, pyrid-4-yl, 3-fluoropyrid-4-yl, 2-cyanopyrid-4-yl, 2-methylpyrid-4-yl or 2-trifluoromethylpyrid-6-yl.

7. A compound according to claim 1 wherein -Lp(D)n is of the formula:

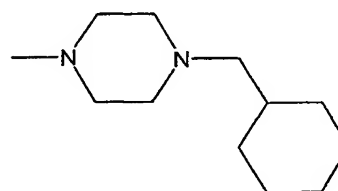
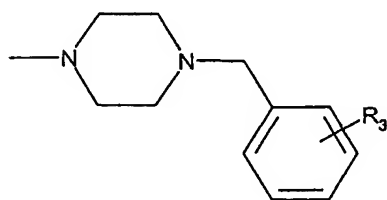
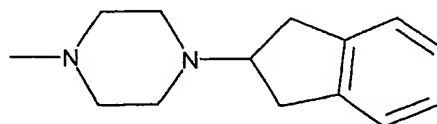
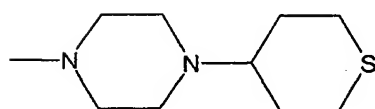
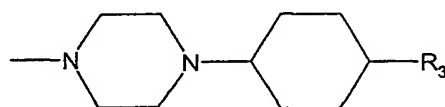
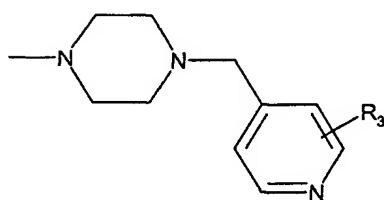
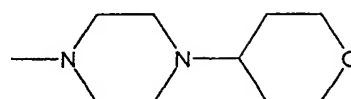
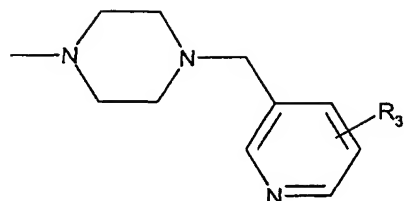
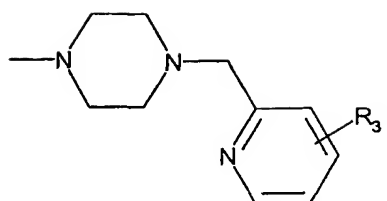
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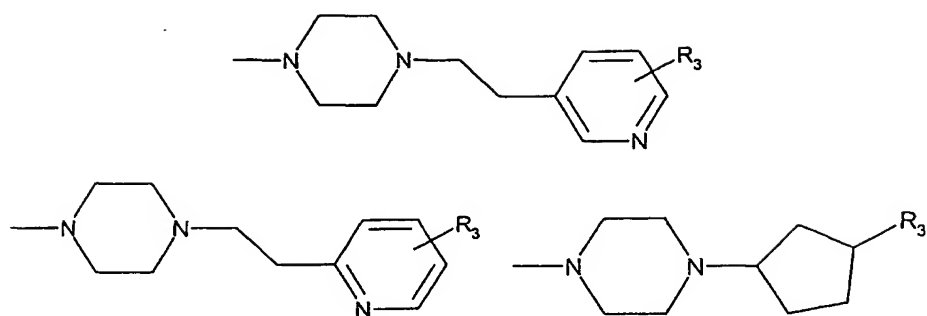
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- 178 -



wherein;

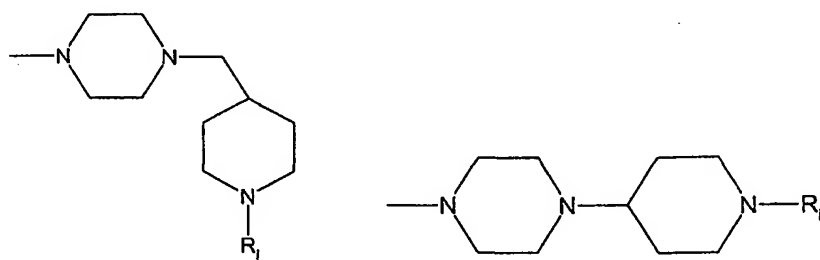
m represents 0 or 1;

5 x^0 represents CH or N; and

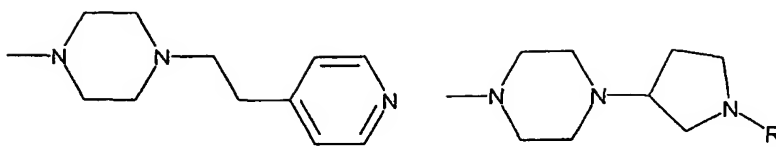
when R₃ is present as a substituent on an aromatic ring, it is selected from hydrogen, alkylsulphonyl, aminosulphonyl, alkylaminosulphonyl, alkylaminocarbonyl, amino, amido, alkoxycarbonyl, acetyl amino, chloro, fluoro, cyano, methoxy, 10 ethoxy, nitro, hydroxy, alkylsulphonylamino, triazolyl and tetrazolyl; and

when R₃ is present as a substituent on a saturated ring, it is selected from hydrogen, hydroxy, amino, (1-3C)alkoxy, (1-3C)hydroxyalkyl, (1-3C)alkyl, carboxy, methoxycarbonyl and 15 ethoxycarbonyl.

8. A compound according to claim 7 wherein $-L_p(D)_n$ is of the formula:

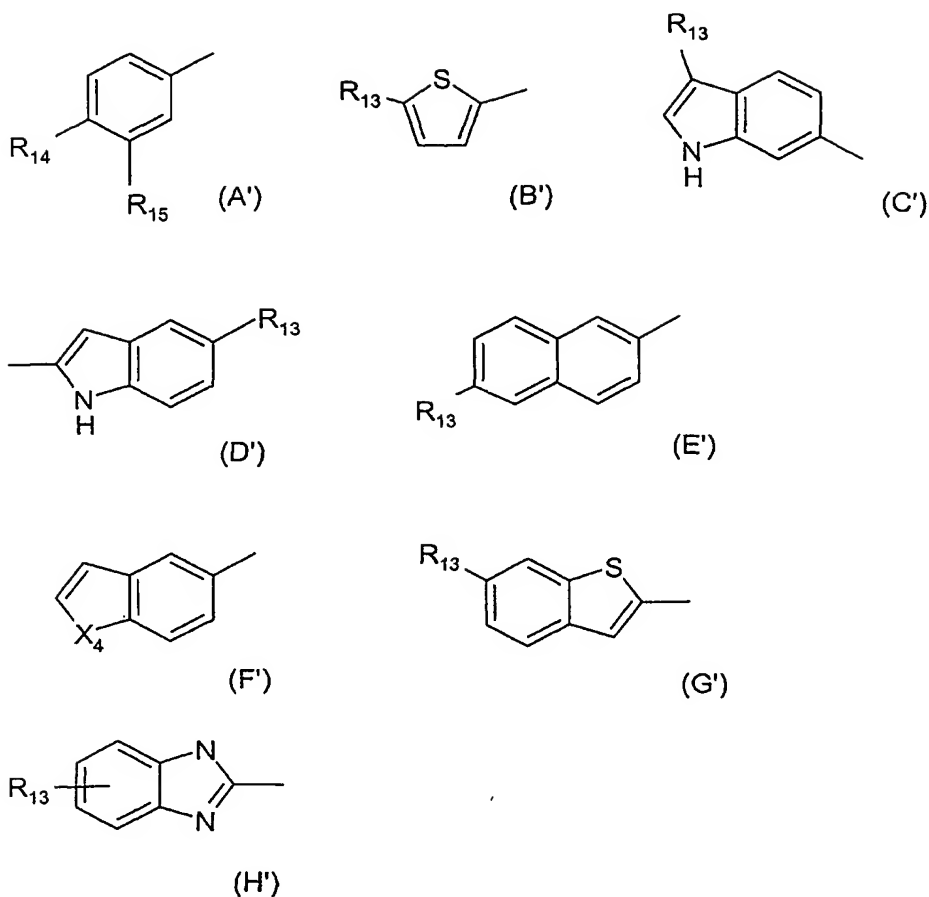


- 179 -



wherein R_1 is hydrogen or (1-6C)alkyl.

9. A compound according to any one of claims 1 to 8 wherein
 5 R_2 is phenyl, thien-2-yl, naphthyl, indol-2-yl, indol-6-yl, benzo[b]furan-5-yl, benzo[b]thiophen-2-yl or benzimidazol-2-yl (each of which is optionally substituted as defined in claim 1).
- 10 10. A compound according to any one of claims 1 to 9 wherein optional substituents for R_2 are selected from:
 fluoro, chloro, bromo, iodo, nitro, thiol, difluoromethoxy, trifluoromethoxy, hydrazido, methylhydrazido, amino, cyano, trifluoromethyl, methylthio, vinyl, ethynyl, acetylamino,
 15 carboxy, acetoxy, hydroxy, methyl, ethyl, amido (CONH_2), aminomethyl, methoxy and ethoxy.
11. A compound according to any one of claims 1 to 10 wherein R_2 is selected from one of the formula (A') to (H'):



wherein X_4 is O or S, R_{13} is selected from hydrogen, fluoro, [except for (C')] chloro or methyl and R_{14} is selected from hydrogen, methyl, ethyl, fluoro, chloro, and methoxy and R_{15} is selected from hydrogen, methyl, fluoro, chloro and amino.

12. A compound according to claims 1 to 11, wherein R_2 is 4-chlorophenyl, 4-methoxyphenyl, 3-amino-4-chlorophenyl, indol-2-yl, 5-chloroindol-2-yl, indol-6-yl, 3-chloroindol-6-yl or 3-methylindol-6-yl.

13. A compound according to any one of claims 1 to 12 wherein

- 181 -

-X-X- is -CONH-.

14. A compound according to any one of claims 1 to 13 wherein Y is CH.

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15. A compound according to any one of claims 1 to 14 wherein Cy is an optionally R_{3a} substituted: phenyl, pyridyl, thienyl, thiazolyl, naphthyl, piperidinyl, furanyl, pyrrolyl, isoxazolyl, isothiazolyl, pyrazolyl, oxazolyl, imidazolyl, 10 1,2,4-thiadiazolyl, 1,3,4-thiadiazolyl, pyrimidinyl, pyridazinyl, quinolyl, isoquinolyl, benzofuryl, benzothienyl or cycloalkyl group, or a phenyl group substituted by R_{3i}X_i in which X_i is a bond, O, NH or CH₂ and R_{3i} is phenyl, pyridyl or pyrimidyl optionally substituted by R_{3a}.

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16. A compound according to any one of claims 1 to 14 wherein Cy is an optionally R_{3a} substituted: phenyl, pyridyl, thienyl, thiazolyl, naphthyl, piperidinyl or cycloalkyl group.

20 17. A compound according to any one of claims 1 to 16 wherein R_{3a} is selected from hydrogen, hydroxyl, alkoxy, alkyl (optionally substituted by hydroxy, alkylamino, alkoxy, oxo, aryl or cycloalkyl), aminoalkyl (optionally substituted by hydroxy, alkylamino, alkoxy, oxo, aryl or cycloalkyl), 25 hydroxyalkyl (optionally substituted by hydroxy, alkylamino, alkoxy, oxo, aryl or cycloalkyl), alkoxyalkyl, alkoxycarbonyl, alkylaminocarbonyl, alkoxycarbonylamino, alkylamino (optionally substituted by hydroxy, alkylamino, alkoxy, oxo, aryl or cycloalkyl), amino, halo, cyano, nitro, thiol, 30 alkylthio, alkylsulphonyl, alkylsulphenyl, alkylsulphonamido, alkylaminosulphonyl, aminosulphonyl, haloalkoxy, haloalkyl, a group of the formula -C(X³)N(R¹¹)R¹² (wherein X³ is O or S; and R¹¹ and R¹² are independently selected from hydrogen, methyl or ethyl or together with the nitrogen atom to which

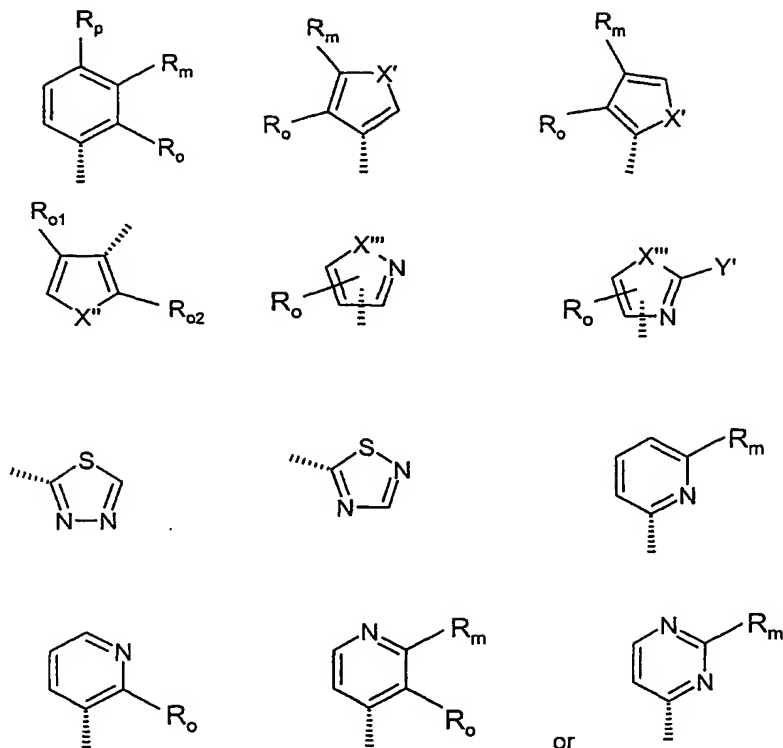
- 182 -

they are attached form a pyrrolidin-1-yl, piperidin-1-yl or morpholino group) and -OCH₂O- which is bonded to two adjacent ring atoms in Cy.

5 18. A compound according to any one of claims 1 to 16 wherein
R_{3a} is selected from hydrogen, hydroxyl, alkoxy, alkyl
(optionally substituted by hydroxy, alkylamino, alkoxy, oxo,
aryl or cycloalkyl), hydroxyalkyl (optionally substituted by
hydroxy, alkylamino, alkoxy, oxo, aryl or cycloalkyl),
10 alkoxyalkyl, alkoxycarbonyl, alkylaminocarbonyl,
alkoxycarbonylamino, alkylamino (optionally substituted by
hydroxy, alkylamino, alkoxy, oxo, aryl or cycloalkyl),
aminoalkyl (substituted by hydroxy, alkylamino, alkoxy, oxo,
aryl or cycloalkyl), amino, halo, cyano, nitro, thiol,
15 alkylthio, alkylsulphonyl, alkylsulphenyl, alkylsulphonamido,
alkylaminosulphonyl, aminosulphonyl, haloalkoxy and haloalkyl.

19. A compound according to any one of claims 1 to 16 wherein
R_{3a} is selected from hydrogen, hydroxyl, methoxy, ethoxy,
20 methyl, ethyl, methylaminomethyl, dimethylaminomethyl,
hydroxymethyl, carboxy, methoxymethyl, methoxycarbonyl,
ethoxycarbonyl, methylaminocarbonyl, dimethylamino-carbonyl,
aminomethyl, CONH₂, CH₂CONH₂, acetyl amino,
methoxycarbonylamino, ethoxycarbonylamino, t-
25 butoxycarbonylamino, amino, fluoro, chloro, bromo, cyano,
nitro, thiol, methylthio, methylsulphonyl, ethylsulphonyl,
methylsulphenyl, methylsulphonylamido, ethylsulphonylamido,
methylaminosulphonyl, ethylaminosulphonyl, aminosulphonyl,
trifluoromethoxy, trifluoromethyl, bromo, -OCH₂O- (which is
30 bonded to two adjacent ring atoms in Cy) and -C(X³)N(R¹¹)R¹²
(wherein X³ is O or S and R¹¹ and R¹² are independently
selected from hydrogen, methyl or ethyl or together with the
nitrogen atom to which they are attached form a pyrrolidin-1-
yl, piperidin-1-yl or morpholino group).

20. A compound according to any one of claims 1 to 16 wherein R_{3a} is selected from hydrogen, hydroxyl, methoxy, ethoxy, methyl, ethyl, methylaminomethyl, dimethylaminomethyl, hydroxymethyl, carboxy, methoxymethyl, methoxycarbonyl, ethoxycarbonyl, methylaminocarbonyl, dimethylamino-carbonyl, aminomethyl, $CONH_2$, CH_2CONH_2 , acetylamino, methoxycarbonylamino, ethoxycarbonylamino, t-butoxycarbonylamino, amino, fluoro, chloro, cyano, nitro, thiol, methylthio, methylsulphonyl, ethylsulphonyl, methylsulphenyl, methylsulphonylamido, ethylsulphonylamido, methylaminosulphonyl, ethylaminosulphonyl, aminosulphonyl, trifluoromethoxy and trifluoromethyl.
21. A compound according to any one of claims 1 to 14 wherein Cy is selected from:



wherein:

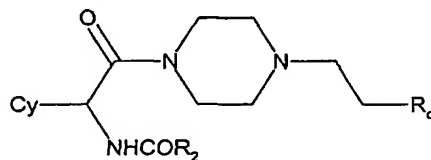
- X' is selected from O, S and NMe;
- 5 X' is selected from O and S;
- X'' is selected from O, S, NH and NMe;
- Y' is selected from hydrogen, amino and methyl;
- R_O is selected from hydrogen, methyl, fluoro, chloro, trifluoromethyl, methoxy, methylthio, methylsulphinyl and
- 10 methylsulphonyl;
- R_m is selected from hydrogen, methyl, fluoro, chloro, trifluoromethyl, methoxy, methylthio, methylsulphinyl, methylsulphonyl, carboxy, methoxycarbonyl and a group of the formula -C(X³)N(R¹¹)R¹² (wherein X³ is O or S and R¹¹ and R¹²
- 15 are independently selected from hydrogen, methyl or ethyl or together with the nitrogen atom to which they are attached form a pyrrolidin-1-yl, piperidin-1-yl or morpholino group);
- R_p is selected from hydrogen and fluoro; or

- 185 -

R_O and R_m or R_m and R_p form an $-OCH_2O-$ group; or
 R_O and R_m together with the ring to which they are attached
 form a 5 or 6 membered aryl or heteroaryl ring (wherein the
 heteroaryl ring contains 1 or 2 heteroatoms selected from
 5 nitrogen, oxygen and sulfur);
 one of R_{O1} and R_{O2} is hydrogen and the other is R_O ;

22. A compound according to any one of claims 1 to 14 wherein
 Cy is selected from phenyl, 2-chlorophenyl, 2-methoxyphenyl,
 10 4-carbamoylphenyl, pyrid-2-yl, pyrid-4-yl, thien-2-yl, thien-
 3-yl, furan-2-yl, furan-3-yl, imidazol-2-yl, thiazol-2-yl,
 thiazol-4-yl, thiazol-5-yl and quinolin-4-yl.

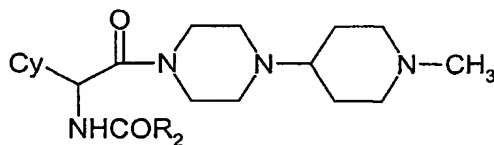
23. A compound of the formula:



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or a physiologically-tolerable salt thereof, wherein Cy, R_2
 and R_C are as defined in any one of claims 1 to 22.

24. A compound of the formula:



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or a physiologically-tolerable salt thereof, wherein Cy and R_2
 are as defined in any one of claims 1 - 22.

25. A compound as claimed in any one of Claims 1 to 24, in
 which the alpha atom in Y is carbon and has the conformation
 that would result from construction from a D- α -aminoacid
 $NH_2-CR_{1b}(Cy)-COOH$ where the NH_2 represents part of X-X.

26. A compound as claimed in Claim 1, which is selected from:
1-(Indole-6-carbonyl-D-phenylglyciny1)-4-[2-(4-pyridiny1)-
ethyl]piperazine;
5 1-(3-Chloroindole-6-carbonyl-D-phenylglyciny1)-
4-[2-(4-pyridiny1)ethyl]piperazine;
1-(4-Methoxybenzoyl-D-phenylglyciny1)-4-(1-methylpiperidin-4-
yl)piperazine;
1-(Indole-6-carbonyl-D-phenylglyciny1)-4-(1-methylpiperidin-4-
10 yl)piperazine;
1-(4-Methoxybenzoyl-D-(2-chlorophenyl)glyciny1)-4-(1-methyl-
piperidin-4-yl)piperazine;
1-(Indole-6-carbonyl-D-(2-chlorophenyl)glyciny1)-4-(1-methyl-
piperidin-4-yl)piperazine; and
15 1-(4-Methoxybenzoyl-D-(2-trifluoromethylphenyl)glyciny1)-4-(1-
methylpiperidin-4-yl)piperazine;
and physiologically-tolerable salts thereof.

27. A pharmaceutical composition, which comprises a compound
20 as claimed in any one of Claims 1 to 26 together with at least
one pharmaceutically acceptable carrier or excipient.

28. A compound as claimed in any one of Claims 1 to 26, for
use in therapy.

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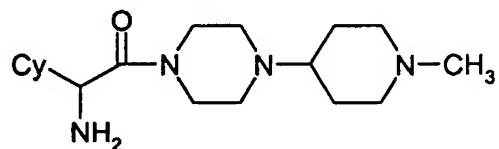
29. Use of a compound as claimed in any one of Claims 1 to 26
for the manufacture of a medicament for the treatment of a
thrombotic disorder.

- 30 30. A method of treatment of a human or non-human animal body
to combat a thrombotic disorder, which comprises administering
to said body an effective amount of a compound as claimed in
claim 1.

31. A pharmaceutical composition comprising a compound as claimed in any one of claims 1 to 26 for use to combat a thrombotic disorder.

5 32. A compound of formula I as claimed in claim 1 and named in any of the Examples herein, or a physiologically-tolerable salt thereof.

10 33. A compound of the formula



or a salt thereof.